

SEQUENCE LISTING

<110> Summar, Marshall L.

Christman, Brian

<120> THERAPEUTIC METHODS RELATING TO
CARBAMYL PHOSPHATE SYNTHETASE I POLYMORPHISM

<130> 1242-19-2 CIP Sequence Listing

<140>

<141>

<150> 09/585,077

<151> 2000-06-01

<160> 20

<170> PatentIn Ver. 2.0

<210> 1

<211> 5761

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (124)..(4626)

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Gln Pro Val Leu Asn Ile Thr Asn Lys Gln Ala Phe Ile Thr Ala Gln	
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His Pro Thr Ser Met Glu Tyr Cys Ile Ile Glu Val Asn Ala Arg Leu	
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Lys Lys Thr Val Val Val Asn Cys Asn Pro Glu Thr Val Ser Thr Asp	
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Phe Asp Glu Cys Asp Lys Leu Tyr Phe Glu Glu Leu Ser Leu Glu Arg	
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Ile Leu Asp Ile Tyr His Gln Glu Ala Cys Gly Gly Cys Ile Ile Ser	
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Val Gly Gly Gln Ile Pro Asn Asn Leu Ala Val Pro Leu Tyr Lys Asn	
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Gly Val Lys Ile Met Gly Thr Ser Pro Leu Gln Ile Asp Arg Ala Glu	
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Asp Arg Ser Ile Phe Ser Ala Val Leu Asp Glu Leu Lys Val Ala Gln	
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Ala Pro Trp Lys Ala Val Asn Thr Leu Asn Glu Ala Leu Glu Phe Ala	
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Lys Ser Val Asp Tyr Pro Cys Leu Leu Arg Pro Ser Tyr Val Leu Ser	
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Gly Ser Ala Met Asn Val Val Phe Ser Glu Asp Glu Met Lys Lys Phe	
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Leu Glu Glu Ala Thr Arg Val Ser Gln Glu His Pro Val Val Leu Thr	
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Asp Gly Arg Val Ile Ser His Ala Ile Ser Glu His Val Glu Asp Ala	
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Gly Val His Ser Gly Asp Ala Thr Leu Met Leu Pro Thr Gln Thr Ile	
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Ser Gln Gly Ala Ile Glu Lys Val Lys Asp Ala Thr Arg Lys Ile Ala	
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Lys Ala Phe Ala Ile Ser Gly Pro Phe Asn Val Gln Phe Leu Val Lys	
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Leu Asp His Pro Ile Ile Pro Ala Asp Tyr Val Ala Ile Lys Ala Pro	
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Arg	Pro	Gly	Ile	Arg	Leu	Leu	Ser	Val	Lys	Ala	Gln	Thr	Ala	His	Ile
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Val	Leu	Glu	Asp	Gly	Thr	Lys	Met	Lys	Gly	Tyr	Ser	Phe	Gly	His	Pro
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Ser	Ser	Val	Ala	Gly	Glu	Val	Val	Phe	Asn	Thr	Gly	Leu	Gly	Gly	Tyr
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Pro	Glu	Ala	Ile	Thr	Asp	Pro	Ala	Tyr	Lys	Gly	Gln	Ile	Leu	Thr	Met
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Ala	Asn	Pro	Ile	Ile	Gly	Asn	Gly	Gly	Ala	Pro	Asp	Thr	Thr	Ala	Leu
			100					105						110	

Asp	Glu	Leu	Gly	Leu	Ser	Lys	Tyr	Leu	Glu	Ser	Asn	Gly	Ile	Lys	Val	115	120	125
Ser	Gly	Leu	Leu	Val	Leu	Asp	Tyr	Ser	Lys	Asp	Tyr	Asn	His	Trp	Leu	130	135	140
Ala	Thr	Lys	Ser	Leu	Gly	Gln	Trp	Leu	Gln	Glu	Glu	Lys	Val	Pro	Ala	145	150	155
Ile	Tyr	Gly	Val	Asp	Thr	Arg	Met	Leu	Thr	Lys	Ile	Ile	Arg	Asp	Lys	165	170	175
Gly	Thr	Met	Leu	Gly	Lys	Ile	Glu	Phe	Glu	Gly	Gln	Pro	Val	Asp	Phe	180	185	190
Val	Asp	Pro	Asn	Lys	Gln	Asn	Leu	Ile	Ala	Glu	Val	Ser	Thr	Lys	Asp	195	200	205
Val	Lys	Val	Tyr	Gly	Lys	Gly	Asn	Pro	Thr	Lys	Val	Val	Ala	Val	Asp	210	215	220
Cys	Gly	Ile	Lys	Asn	Asn	Val	Ile	Arg	Leu	Leu	Val	Lys	Arg	Gly	Ala	225	230	235
Glu	Val	His	Leu	Val	Pro	Trp	Asn	His	Asp	Phe	Thr	Lys	Met	Glu	Tyr	245	250	255
Asp	Gly	Ile	Leu	Ile	Ala	Gly	Gly	Pro	Gly	Asn	Pro	Ala	Leu	Ala	Glu	260	265	270
Pro	Leu	Ile	Gln	Asn	Val	Arg	Lys	Ile	Leu	Glu	Ser	Asp	Arg	Lys	Glu	275	280	285
Pro	Leu	Phe	Gly	Ile	Ser	Thr	Gly	Asn	Leu	Ile	Thr	Gly	Leu	Ala	Ala	290	295	300
Gly	Ala	Lys	Thr	Tyr	Lys	Met	Ser	Met	Ala	Asn	Arg	Gly	Gln	Asn	Gln	305	310	315
Pro	Val	Leu	Asn	Ile	Thr	Asn	Lys	Gln	Ala	Phe	Ile	Thr	Ala	Gln	Asn	325	330	335
His	Gly	Tyr	Ala	Leu	Asp	Asn	Thr	Leu	Pro	Ala	Gly	Trp	Lys	Pro	Leu	340	345	350
Phe	Val	Asn	Val	Asn	Asp	Gln	Thr	Asn	Glu	Gly	Ile	Met	His	Glu	Ser	355	360	365
Lys	Pro	Phe	Phe	Ala	Val	Gln	Phe	His	Pro	Glu	Val	Thr	Pro	Gly	Pro	370	375	380
Ile	Asp	Thr	Glu	Tyr	Leu	Phe	Asp	Ser	Phe	Phe	Ser	Leu	Ile	Lys	Lys	385	390	395
Gly	Lys	Ala	Thr	Thr	Ile	Thr	Ser	Val	Leu	Pro	Lys	Pro	Ala	Leu	Val	405	410	415

Ala	Ser	Arg	Val	Glu	Val	Ser	Lys	Val	Leu	Ile	Leu	Gly	Ser	Gly	Gly	
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His	Pro	Ser	Ile	Glu	Gly	Phe	Thr	Pro	Arg	Leu	Pro	Met	Asn	Lys	Glu	820	825	830
Trp	Pro	Ser	Asn	Leu	Asp	Leu	Arg	Lys	Glu	Leu	Ser	Glu	Pro	Ser	Ser	835	840	845
Thr	Arg	Ile	Tyr	Ala	Ile	Ala	Lys	Ala	Ile	Asp	Asp	Asn	Met	Ser	Leu	850	855	860
Asp	Glu	Ile	Glu	Lys	Leu	Thr	Tyr	Ile	Asp	Lys	Trp	Phe	Leu	Tyr	Lys	865	870	875
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Thr	Tyr	Asn	Gly	Gln	Glu	His	Asp	Val	Asn	Phe	Asp	Asp	His	Gly	Met	965	970	975
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Asp	Trp	Cys	Ala	Val	Ser	Ser	Ile	Arg	Thr	Leu	Arg	Gln	Leu	Gly	Lys	995	1000	1005
Lys	Thr	Val	Val	Val	Asn	Cys	Asn	Pro	Glu	Thr	Val	Ser	Thr	Asp	Phe	1010	1015	1020

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Ile Val Leu Glu Asp Gly Thr Lys Met Lys Gly Tyr Ser Phe Gly His	
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115 120 125	
gtt tca ggt ttg ctg gtg ctg gat tat agt aaa gac tac aac cac tgg	552
Val Ser Gly Leu Leu Val Leu Asp Tyr Ser Lys Asp Tyr Asn His Trp	
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Ala Ile Tyr Gly Val Asp Thr Arg Met Leu Thr Lys Ile Ile Arg Asp	
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Asp Cys Gly Ile Lys Asn Asn Val Ile Arg Leu Leu Val Lys Arg Gly	
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Glu Pro Leu Ile Gln Asn Val Arg Lys Ile Leu Glu Ser Asp Arg Lys	
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Glu Pro Leu Phe Gly Ile Ser Thr Gly Asn Leu Ile Thr Gly Leu Ala	
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Ala Gly Ala Lys Thr Tyr Lys Met Ser Met Ala Asn Arg Gly Gln Asn	
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Gln Pro Val Leu Asn Ile Thr Asn Lys Gln Ala Phe Ile Thr Ala Gln	
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Asn His Gly Tyr Ala Leu Asp Asn Thr Leu Pro Ala Gly Trp Lys Pro	
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Leu Phe Val Asn Val Asn Asp Gln Thr Asn Glu Gly Ile Met His Glu	
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Ser Lys Pro Phe Phe Ala Val Gln Phe His Pro Glu Val Thr Pro Gly	
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Pro Ile Asp Thr Glu Tyr Leu Phe Asp Ser Phe Phe Ser Leu Ile Lys	
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Pro Asn Ile Ala Ser Val Gln Thr Asn Glu Val Gly Leu Lys Gln Ala	
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Asp Thr Val Tyr Phe Leu Pro Ile Thr Pro Gln Phe Val Thr Glu Val	
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Ile Lys Ala Glu Gln Pro Asp Gly Leu Ile Leu Gly Met Gly Gly Gln	
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Thr Ala Leu Asn Cys Gly Val Glu Leu Phe Lys Arg Gly Val Leu Lys	
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Glu Tyr Gly Val Lys Val Leu Gly Thr Ser Val Glu Ser Ile Met Ala	
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Thr Glu Asp Arg Gln Leu Phe Ser Asp Lys Leu Asn Glu Ile Asn Glu	
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Lys Ile Ala Pro Ser Phe Ala Val Glu Ser Ile Glu Asp Ala Leu Lys	
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Met Gly Val His Thr Gly Asp Ser Val Val Val Ala Pro Ala Gln Thr	
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Val Arg His Leu Gly Ile Val Gly Glu Cys Asn Ile Gln Phe Ala Leu	
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His Pro Thr Ser Met Glu Tyr Cys Ile Ile Glu Val Asn Ala Arg Leu	
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Tyr Met Val Thr Lys Ile Pro Arg Trp Asp Leu Asp Arg Phe His Gly	
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Leu Asp Glu Ile Glu Lys Leu Thr Tyr Ile Asp Lys Trp Phe Leu Tyr	
865 870 875	
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Val	Leu	Glu	Asp	Gly	Thr	Lys	Met	Lys	Gly	Tyr	Ser	Phe	Gly	His	Pro
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Pro	Glu	Ala	Ile	Thr	Asp	Pro	Ala	Tyr	Lys	Gly	Gln	Ile	Leu	Thr	Met
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Gly Thr Met Leu Gly Lys Ile Glu Phe Glu Gly Gln Pro Val Asp Phe
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195 200 205

Val Lys Val Tyr Gly Lys Gly Asn Pro Thr Lys Val Val Ala Val Asp
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Cys Gly Ile Lys Asn Asn Val Ile Arg Leu Leu Val Lys Arg Gly Ala
225 230 235 240

Glu Val His Leu Val Pro Trp Asn His Asp Phe Thr Lys Met Glu Tyr
245 250 255

Asp Gly Ile Leu Ile Ala Gly Gly Pro Gly Asn Pro Ala Leu Ala Glu
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Pro Leu Ile Gln Asn Val Arg Lys Ile Leu Glu Ser Asp Arg Lys Glu
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Pro Leu Phe Gly Ile Ser Thr Gly Asn Leu Ile Thr Gly Leu Ala Ala
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Gly Ala Lys Thr Tyr Lys Met Ser Met Ala Asn Arg Gly Gln Asn Gln
305 310 315 320

Pro Val Leu Asn Ile Thr Asn Lys Gln Ala Phe Ile Thr Ala Gln Asn
325 330 335

His Gly Tyr Ala Leu Asp Asn Thr Leu Pro Ala Gly Trp Lys Pro Leu
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Phe Val Asn Val Asn Asp Gln Thr Asn Glu Gly Ile Met His Glu Ser
355 360 365

Lys Pro Phe Phe Ala Val Gln Phe His Pro Glu Val Thr Pro Gly Pro
370 375 380

Ile Asp Thr Glu Tyr Leu Phe Asp Ser Phe Phe Ser Leu Ile Lys Lys
385 390 395 400

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Gly Val His Thr Gly Asp Ser Val Val Val Ala Pro Ala Gln Thr Leu
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Arg His Leu Gly Ile Val Gly Glu Cys Asn Ile Gln Phe Ala Leu His
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Pro Thr Ser Met Glu Tyr Cys Ile Ile Glu Val Asn Ala Arg Leu Ser
705 710 715 720

Arg Ser Ser Ala Leu Ala Ser Lys Ala Thr Gly Tyr Pro Leu Ala Phe
725 730 735

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35 40 45

Val Leu Glu Asp Gly Thr Lys Met Lys Gly Tyr Ser Phe Gly His Pro
50 55 60

Ser Ser Val Ala Gly Glu Val Val Phe Asn Thr Gly Leu Gly Gly Tyr
65 70 75 80

Pro Glu Ala Ile Thr Asp Pro Ala Tyr Lys Gly Gln Ile Leu Thr Met
85 90 95

Ala Asn Pro Ile Ile Gly Asn Gly Gly Ala Pro Asp Thr Thr Ala Leu
100 105 110

Asp Glu Leu Gly Leu Ser Lys Tyr Leu Glu Ser Asn Gly Ile Lys Val
115 120 125

Ser Gly Leu Leu Val Leu Asp Tyr Ser Lys Asp Tyr Asn His Trp Leu
130 135 140

Ala Thr Lys Ser Leu Gly Gln Trp Leu Gln Glu Glu Lys Val Pro Ala
145 150 155 160

Ile Tyr Gly Val Asp Thr Arg Met Leu Thr Lys Ile Ile Arg Asp Lys
165 170 175

Gly Thr Met Leu Gly Lys Ile Glu Phe Glu Gly Gln Pro Val Asp Phe
180 185 190

Val Asp Pro Asn Lys Gln Asn Leu Ile Ala Glu Val Ser Thr Lys Asp
195 200 205

Val Lys Val Tyr Gly Lys Gly Asn Pro Thr Lys Val Val Ala Val Asp
210 215 220

Cys Gly Ile Lys Asn Asn Val Ile Arg Leu Leu Val Lys Arg Gly Ala
225 230 235 240

Glu	Val	His	Leu	Val	Pro	Trp	Asn	His	Asp	Phe	Thr	Lys	Met	Glu	Tyr	245	250	255
Asp	Gly	Ile	Leu	Ile	Ala	Gly	Gly	Pro	Gly	Asn	Pro	Ala	Leu	Ala	Glu	260	265	270
Pro	Leu	Ile	Gln	Asn	Val	Arg	Lys	Ile	Leu	Glu	Ser	Asp	Arg	Lys	Glu	275	280	285
Pro	Leu	Phe	Gly	Ile	Ser	Thr	Gly	Asn	Leu	Ile	Thr	Gly	Leu	Ala	Ala	290	295	300
Gly	Ala	Lys	Thr	Tyr	Lys	Met	Ser	Met	Ala	Asn	Arg	Gly	Gln	Asn	Gln	305	310	315
Pro	Val	Leu	Asn	Ile	Thr	Asn	Lys	Gln	Ala	Phe	Ile	Thr	Ala	Gln	Asn	325	330	335
His	Gly	Tyr	Ala	Leu	Asp	Asn	Thr	Leu	Pro	Ala	Gly	Trp	Lys	Pro	Leu	340	345	350
Phe	Val	Asn	Val	Asn	Asp	Gln	Thr	Asn	Glu	Gly	Ile	Met	His	Glu	Ser	355	360	365
Lys	Pro	Phe	Phe	Ala	Val	Gln	Phe	His	Pro	Glu	Val	Thr	Pro	Gly	Pro	370	375	380
Ile	Asp	Thr	Glu	Tyr	Leu	Phe	Asp	Ser	Phe	Phe	Ser	Leu	Ile	Lys	Lys	385	390	395
Gly	Lys	Ala	Thr	Thr	Ile	Thr	Ser	Val	Leu	Pro	Lys	Pro	Ala	Leu	Val	405	410	415
Ala	Ser	Arg	Val	Glu	Val	Ser	Lys	Val	Leu	Ile	Leu	Gly	Ser	Gly	Gly	420	425	430
Leu	Ser	Ile	Gly	Gln	Ala	Gly	Glu	Phe	Asp	Tyr	Ser	Gly	Ser	Gln	Ala	435	440	445
Val	Lys	Ala	Met	Lys	Glu	Glu	Asn	Val	Lys	Thr	Val	Leu	Met	Asn	Pro	450	455	460
Asn	Ile	Ala	Ser	Val	Gln	Thr	Asn	Glu	Val	Gly	Leu	Lys	Gln	Ala	Asp	465	470	475
Thr	Val	Tyr	Phe	Leu	Pro	Ile	Thr	Pro	Gln	Phe	Val	Thr	Glu	Val	Ile	485	490	495
Lys	Ala	Glu	Gln	Pro	Asp	Gly	Leu	Ile	Leu	Gly	Met	Gly	Gly	Gln	Thr	500	505	510
Ala	Leu	Asn	Cys	Gly	Val	Glu	Leu	Phe	Lys	Arg	Gly	Val	Leu	Lys	Glu	515	520	525
Tyr	Gly	Val	Lys	Val	Leu	Gly	Thr	Ser	Val	Glu	Ser	Ile	Met	Ala	Thr	530	535	540

Glu	Asp	Arg	Gln	Leu	Phe	Ser	Asp	Lys	Leu	Asn	Glu	Ile	Asn	Glu	Lys	545	550	555	560
Ile	Ala	Pro	Ser	Phe	Ala	Val	Glu	Ser	Ile	Glu	Asp	Ala	Leu	Lys	Ala	565	570	575	
Ala	Asp	Thr	Ile	Gly	Tyr	Pro	Val	Met	Ile	Arg	Ser	Ala	Tyr	Ala	Leu	580	585	590	
Gly	Gly	Leu	Gly	Ser	Gly	Ile	Cys	Pro	Asn	Arg	Glu	Thr	Leu	Met	Asp	595	600	605	
Leu	Ser	Thr	Lys	Ala	Phe	Ala	Met	Thr	Asn	Gln	Ile	Leu	Val	Glu	Lys	610	615	620	
Ser	Val	Thr	Gly	Trp	Lys	Glu	Ile	Glu	Tyr	Glu	Val	Val	Arg	Asp	Ala	625	630	635	640
Asp	Asp	Asn	Cys	Val	Thr	Val	Cys	Asn	Met	Glu	Asn	Val	Asp	Ala	Met	645	650	655	
Gly	Val	His	Thr	Gly	Asp	Ser	Val	Val	Val	Ala	Pro	Ala	Gln	Thr	Leu	660	665	670	
Ser	Asn	Ala	Glu	Phe	Gln	Met	Leu	Arg	Arg	Thr	Ser	Ile	Asn	Val	Val	675	680	685	
Arg	His	Leu	Gly	Ile	Val	Gly	Glu	Cys	Asn	Ile	Gln	Phe	Ala	Leu	His	690	695	700	
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Arg	Ser	Ser	Ala	Leu	Ala	Ser	Lys	Ala	Thr	Gly	Tyr	Pro	Leu	Ala	Phe	725	730	735	
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Ser	Ser	Arg	Ile	Gly	Ser	Ser	Met	Lys	Ser	Val	Gly	Glu	Val	Met	Ala	785	790	795	800
Ile	Gly	Arg	Thr	Phe	Glu	Glu	Ser	Phe	Gln	Lys	Ala	Leu	Arg	Met	Cys	805	810	815	
His	Pro	Ser	Ile	Glu	Gly	Phe	Thr	Pro	Arg	Leu	Pro	Met	Asn	Lys	Glu	820	825	830	
Trp	Pro	Ser	Asn	Leu	Asp	Leu	Arg	Lys	Glu	Leu	Ser	Glu	Pro	Ser	Ser	835	840	845	

Thr	Arg	Ile	Tyr	Ala	Ile	Ala	Lys	Ala	Ile	Asp	Asp	Asn	Met	Ser	Leu	850	855	860
Asp	Glu	Ile	Glu	Lys	Leu	Thr	Tyr	Ile	Asp	Lys	Trp	Phe	Leu	Tyr	Lys	865	870	875 880
Met	Arg	Asp	Ile	Leu	Asn	Met	Glu	Lys	Thr	Leu	Lys	Gly	Leu	Asn	Ser	885	890	895
Glu	Ser	Met	Thr	Glu	Glu	Thr	Leu	Lys	Arg	Ala	Lys	Glu	Ile	Gly	Phe	900	905	910
Ser	Asp	Lys	Gln	Ile	Ser	Lys	Cys	Leu	Gly	Leu	Thr	Glu	Ala	Gln	Thr	915	920	925
Arg	Glu	Leu	Arg	Leu	Lys	Lys	Asn	Ile	His	Pro	Trp	Val	Lys	Gln	Ile	930	935	940
Asp	Thr	Leu	Ala	Ala	Glu	Tyr	Pro	Ser	Val	Thr	Asn	Tyr	Leu	Tyr	Val	945	950	955 960
Thr	Tyr	Asn	Gly	Gln	Glu	His	Asp	Val	Asn	Phe	Asp	Asp	His	Gly	Met	965	970	975
Met	Val	Leu	Gly	Cys	Gly	Pro	Tyr	His	Ile	Gly	Ser	Ser	Val	Glu	Phe	980	985	990
Asp	Trp	Cys	Ala	Val	Ser	Ser	Ile	Arg	Thr	Leu	Arg	Gln	Leu	Gly	Lys	995	1000	1005
Lys	Thr	Val	Val	Val	Asn	Cys	Asn	Pro	Glu	Thr	Val	Ser	Thr	Asp	Phe	1010	1015	1020
Asp	Glu	Cys	Asp	Lys	Leu	Tyr	Phe	Glu	Glu	Leu	Ser	Leu	Glu	Arg	Ile	1025	1030	1035 1040
Leu	Asp	Ile	Tyr	His	Gln	Glu	Ala	Cys	Gly	Gly	Cys	Ile	Ile	Ser	Val	1045	1050	1055
Gly	Gly	Gln	Ile	Pro	Asn	Asn	Leu	Ala	Val	Pro	Leu	Tyr	Lys	Asn	Gly	1060	1065	1070
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Arg	Ser	Ile	Phe	Ser	Ala	Val	Leu	Asp	Glu	Leu	Lys	Val	Ala	Gln	Ala	1090	1095	1100
Pro	Trp	Lys	Ala	Val	Asn	Thr	Leu	Asn	Glu	Ala	Leu	Glu	Phe	Ala	Lys	1105	1110	1115 1120
Ser	Val	Asp	Tyr	Pro	Cys	Leu	Leu	Arg	Pro	Ser	Tyr	Val	Leu	Ser	Gly	1125	1130	1135
Ser	Ala	Met	Asn	Val	Val	Phe	Ser	Glu	Asp	Glu	Met	Lys	Lys	Phe	Leu	1140	1145	1150

Glu	Glu	Ala	Thr	Arg	Val	Ser	Gln	Glu	His	Pro	Val	Val	Leu	Thr	Lys	1155	1160	1165	
Phe	Val	Glu	Gly	Ala	Arg	Glu	Val	Glu	Met	Asp	Ala	Val	Gly	Lys	Asp	1170	1175	1180	
Gly	Arg	Val	Ile	Ser	His	Ala	Ile	Ser	Glu	His	Val	Glu	Asp	Ala	Gly	1185	1190	1195	1200
Val	His	Ser	Gly	Asp	Ala	Thr	Leu	Met	Leu	Pro	Thr	Gln	Thr	Ile	Ser	1205	1210	1215	
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Lys	Val	Met	Ile	Gly	Glu	Asn	Val	Asp	Glu	Lys	His	Leu	Pro	Thr	Leu	1285	1290	1295	
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Gly	Ile	Leu	Ile	Gly	Ile	Gln	Gln	Ser	Phe	Arg	Pro	Arg	Phe	Leu	Gly	1365	1370	1375	
Val	Ala	Glu	Gln	Leu	His	Asn	Glu	Gly	Phe	Lys	Leu	Phe	Ala	Thr	Glu	1380	1385	1390	
Ala	Thr	Ser	Asp	Trp	Leu	Asn	Ala	Asn	Asn	Val	Pro	Ala	Asn	Pro	Val	1395	1400	1405	
Ala	Trp	Pro	Ser	Gln	Glu	Gly	Gln	Asn	Pro	Ser	Leu	Ser	Ser	Ile	Arg	1410	1415	1420	
Lys	Leu	Ile	Arg	Asp	Gly	Ser	Ile	Asp	Leu	Val	Ile	Asn	Leu	Pro	Asn	1425	1430	1435	1440
Asn	Asn	Thr	Lys	Phe	Val	His	Asp	Asn	Tyr	Val	Ile	Arg	Arg	Thr	Ala	1445	1450	1455	

Val Asp Ser Gly Ile Pro Leu Leu Thr Asn Phe Gln Val Thr Lys Leu
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